STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: BLUE MOON Agreement #: 30-076010

2. Name of applicant: Department of Natural Resources

3. Address and phone number of applicant and contact person:

   South Puget Sound Region
   950 Farman Ave. N
   Enumclaw, WA 98022
   Telephone: (360) 825-1631
   Contact: Edward S. Keeley

4. Date checklist prepared: 04/12/2004

5. Agency requesting checklist: Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. Auction Date:02/22/2005
   b. Planned contract end date (but may be extended):10/31/06
   c. Phasing: None.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. Site preparation: None.

   b. Regeneration Method: Hand plant 200 Douglas-fir 1-1 and 100 western red cedar P-1 per acre within two years of the end of the contract.

   c. Vegetation Management: Treatment needs will be assessed 3-4 years after planting.

   d. Thinning: Needs will be assessed 10 – 15 years after planting for pre-commercial thinning.

   Road: The roads that are part of this proposal will receive periodic road maintenance such as grading, ditch cleanout and vegetation management, during and upon completion of harvest activities. The mainline haul roads outside the harvest area will be used for future

forestland management activities such as timber harvesting, recreation, and fire control. The temporary roads constructed by this proposal will be abandoned in accordance to the current Forest Practice Standards, after completion of harvest activities.

Rock Pits and/or Sale: Rock for the construction of the landings and surfacing for the new road construction may come from the Primo Rock Pit located in the SW ¼ NW ¼ SW ¼ Section 20, Township 15 North, Range 6 East, W.M. The pit will remain open for future use such as surfacing of timber sale roads and routine road maintenance.

Other:

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐303 (d) – listed water body in WAU: ☐temp ☐sediment ☐completed TMDL (total maximum daily load):
☐Landscape plan:
☒Watershed analysis: Mashel Watershed Analysis
☐Interdisciplinary team (ID Team) report:
☒Road design plan: Road plan, dated 4/19/04
☒Wildlife report: Memo by Heather McPherson, dated 10/05/04
☒Geotechnical report: Memo by Ana Pierson, dated 10/4/04
☐Other specialist report(s):
☐Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):
☒Rock pit plan: see Road Plan, dated 4/19/04
☒Other:

1) Owl habitat surveys for 1996.
2) Forestry Handbook (1999).
3) State Soil Survey
4) GIS WAU Analysis: Maps and data pertaining to Mass Erosion and Erosion Potential, Hydrologic Maturity and roads per square mile, rain-on-snow zone. This information has been adjusted where more recent and accurate proprietary data exists.
5) DNR Trax System/P&T Special Concerns Report.
6) Nisqually River Management Plan.
7) Habitat Conservation Plan
8) Department of Fish And Wildlife, Priority Habitat Species (PHS)

Referenced documents may be obtained at the South Puget Sound Region office for review during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☐HPA ☐Burning permit ☐Shoreline permit ☒Incidental take permit ☒FPA ☒Other: Board of Natural Resources approval

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description*:*
Estimated Volume: 3,304 mbf
Gross acres in proposal: 72
Net acres in proposal: 70 acres
Right of way: 0.5 acres
Type of harvest: Traditional regeneration 66 acres, shelterwood 4 acres
Logging system: Ground based and cable
Roads: Refer to Road activity summary in 11.c below
Landings: 3 Acres
Rock pits: Refer to Rock Pits in A 7 above.
Other timber sales: None
Special forest products sales: None

The Blue Moon timber sale is located within the Elbe Hills State Forest near the town of Ashford, Washington, southeastern Pierce County. The area originally considered for this proposal was approximately 100 acres and was reduced to a net acreage of 70 acres due to protection measures put in place for the streams, wetlands, potentially unstable slopes and Marbled Murrelet habitat found adjacent to the final harvest area. The proposed activity consists of one harvest unit with the majority of the unit as traditional regeneration harvest with nine leave trees per acre and four acres in the southwestern portion of the unit as a shelterwood harvest with 50 leave trees per acre. The harvest area is within two sub-basins in the Mashel WAU. The majority of the harvest area is in the Busywild sub-basin and approximately three acres of the unit is located in the Beaver Creek sub-basin. The purpose of the shelterwood area is to maintain hydrologic maturity within the Beaver Creek subbasin while providing revenue for the trusts. The proposal also includes road construction, reconstruction and abandonment. See A.11 c., Roads Activity Summary for details on the proposed roads.

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

The proposed sale area is located within the peak rain-on-snow and snow-dominated zones. The stand is hydrologically mature 60 to 70 year old second growth timber and is within a designated Northern Spotted Owl Dispersal Management Area. The primary timber species found within the stand are Douglas-fir, western hemlock, red alder, and black cottonwood. The proposed harvest unit is located on terrain which is gently rolling to moderately steep.

Upland species such as deer, elk, black bear, and cougar use the proposal area. Beaver, rough-skinned newts, amphibians, and cutthroat trout are known to reside and/or use the streams and associated riparian areas. Plants such as salmonberry, devils club, Vaccinium species, salal, Oregon grape, and sword fern are common understory species within the proposal area. These species plus skunk cabbage and sedges are found within the riparian buffers adjacent to the proposal.

The soils found within the proposed harvest area are classified as low to medium mass wasting potential and low to medium erosion potential. The soils do not pose any significant environmental concerns when logging or road construction occurs on them. Any operational impacts will be mitigated by strict adherence to the Forest Practice rules, the Causal Mechanism Reports (CMR's) and the Prescriptions of the Mashel Watershed Analysis, which address possible triggering mechanisms, and full compliance with the procedures of the Habitat Conservation Plan (HCP).

Short Term Objectives:

1) Create revenue for the trust through the harvest of the existing stand.
2) Retain legacy trees for the future stand. This effort will create an important future component of the stand. The development of the clumps over time will promote structural diversity, while providing habitat for various species of animals and birds that are known to use the area.

Long-term objectives:
1) Timber Stand Improvement: a series of intermediate cuttings will be scheduled as needed, as the new stand develops. The primary objective of each treatment will be to stimulate wood production and create revenue.
2) Habitat Management: Create, maintain and improve the components within the developing stand with each succeeding treatment, as part of the overall objective to create quality dispersal and wildlife habitat.
3) Resource Management: The protection of soil productivity and water quality will remain priorities. Each harvest prescription will be crafted to prevent soil erosion, and limit soil compaction. Large coarse woody debris will be left to contribute to site productivity.
4) Create a sustainable source of revenue for the trust.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		4,481	2	0
Reconstruction		2,200		0
Abandonment		4,481	2	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	8*			

*These are temporary crossdrain culverts and will be removed upon completion of harvest activities.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

Sections 1 and 12 of Township 15 North, Range 5 East, W.M.
Sections 6 and 7 of Township 15 North, Range 6 East, W.M.
Rock Pit in Section 20 of Township 15 North, Range 6 East, W.M.

b. Distance and direction from nearest town (include road names):
The proposal area is located northeast of the town of Elbe in the Elbe Hills State Forest, approximately 12 miles by road via Highway 706, and the 278th Avenue entrance, near Ashford Washington.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU Acres	Proposal Acres
MASHEL	57069	72

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

Name of WAU or sub-basin	Acres	DNR managed acres	Private managed acres	Percent DNR managed land	Percent private managed land	Proposal Acres
Mashel River	57,070	15,140	41,930	27	73	72

The table below reports recent timber harvest activity within the last seven years on Department lands, as well as future planned timber harvests on Department lands. The same chart also reports recent past harvesting on private lands, but no attempt was made to predict future timber harvests on private land. Data for Department harvests was compiled from the Department's GIS database. Data for private harvesting was estimated from the attached WAU maps created in August and September of 2002.

NAME OF WAU	DNR ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS + SOLD TIMBER SALES NOT HARVESTED YET (WILL BE EVEN AGED HARVESTING)	DNR ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS	DNR PLANNED HARVEST ACRES WITHIN NEXT FIVE YEARS	PRIVATE ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	PRIVATE ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS
Mashel River	1,949	297	213 EVEN-AGED 1,692 UNEVEN-AGED	4,563	1,722

The Mashel River WAU is 57,070 acres in size, 73 percent is in private ownership, and the remaining 27 percent is managed by the Department of Natural Resources. In the past seven years on private lands (mostly industrial) within the WAU, approximately 15 percent of the land base has had some form of Forest Practices harvest or road activity. The private industrial lands have been harvested at least once. In the lower portions of the WAU private stands are experiencing harvest of the third rotation. In the past seven years on the DNR managed lands within the WAU, approximately 15 percent of the land base has had some form of Forest Practices harvest or road activity. The DNR managed lands within the WAU have had permits on approximately 2.1 percent of the land base per year over the last seven years. This rate of harvest will continue until minimum dispersal levels have been reached. In the next 5 year period the majority of the timber harvested in the WAU on DNR managed lands will come from variable density thinnings designed to improve dispersal habitat. The Forest Practices in the WAU are subject to the requirements of the Mashel Watershed Analysis dated March 1997, on file at the South Puget Sound Region Office. The Causal Mechanism Reports (CMR's) of the analysis are targeted at activities in or adjacent to areas of resource sensitivity. These include: water resources, areas of potential mass wasting, unstable ground and soil erosion.

The road maintenance schedule for the WAU is on track to have all fish blockages removed by 2015. Much of this work will be accomplished over time in conjunction with several timber sales, currently in the planning process. In addition to the fish blockages any undersized culverts found as part of the planning processes, will be replaced.

The implementation of the procedures of the Habitat Conservation Plan (HCP), the use of the CMR's from the Mashel River Watershed Analysis, and compliance with existing Forest Practice regulations will minimize or prevent any potential impact that this proposal may have on the environment, working in combination with past, current and future activities in the foreseeable future.

**The majority of the harvest area is located within the Busywild Creek sub-basin. However, there are approximately 3 acres in the Beaver Creek sub-basin within the shelterwood harvest area and will remain in hydrologic maturity. Due to such a small percentage of the proposal in the Beaver Creek sub-basin, most questions addressing sub-basins will be answered based on information for the Busywild Creek sub-basin.*

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☐Steep Slopes, ☐Mountainous, ☒Other: rolling to steep slopes

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).
The Mashel River WAU is generally rolling topography with upland benches, ridge tops, and mountainsides between 452 feet and 4,869 feet in elevation. The average elevation within the WAU is 2,212 feet. Elbe Hills is in the transition area between Maritime and Cascade climate zones. There are six precipitation ranges within the WAU. They range from a low of 45 inches to a high of 90 inches per year. The majority of the precipitation falls within the 50 to 70 inch range, mostly falling between October and June. The temperatures range from a low of 10 degrees Fahrenheit in the winter to highs of at least 90 during the summer. In areas above 2,500 feet, snow normally covers the ground from December through March. The primary timber types are Douglas fir and western hemlock, although noble fir and silver fir are found in the higher elevations. Most forest lands have been harvested at least once. The western portion of the WAU is rural housing and the town of Eatonville.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposed sale area is a representative example of the Mashel River WAU at that elevation.

b. What is the steepest slope on the site (approximate percent slope)?

Fifty five percent on approximately ten percent of the proposal area.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
3610	GRAVELLY SILT LOAM	30-65	41	LOW	MEDIUM
9829	LOAM	30-65	12	LOW	MEDIUM
1901	LOAM	8-30	11	LOW	LOW
1902	LOAM	30-65	6	MEDIUM	MEDIUM

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

In the immediate vicinity of the sale there are convergent headwalls, and bedrock hollows. As described in the DNR geologist's memo, shallow slumping has occurred to the north of the unit and soil creep was observed adjacent to the eastern boundary.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

There have been shallow natural slope failures in the channel migration zones of streams during rain on snow events. Evidence of past natural slope failures were found during the analysis of aerial photos.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:
Associated management activity:

There have been shallow rapid slope failures in more mountainous portions of the WAU. The majority of these failures have occurred in the vicinity of old roads. The failures were caused, in part, by poor road locations, inadequate engineering/design of the roads, and lack of road maintenance.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☒No ☐Yes, describe similarities between the conditions and activities on these sites:

There are no similarities between the proposed sale area and those areas of the WAU and Sub-Basins where slope failures have occurred in the past.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

Boundaries were located to exclude areas that appear unstable or potentially unstable, especially those areas upslope of streams. Other protection measures include having haul roads graded and culverts and ditches cleaned to maintain crown and drainage. One end of all logs shall be suspended during the yarding operations. Harvest operations may be suspended during wet weather, if in the opinion of the contract administrator the operation poses a threat to public resources. This is in addition to limiting harvesting and hauling to the summer months. To control impacts on the soils that could result in excessive soil displacement and exposure, ground-based equipment will not be allowed on slopes that exceed 35 percent.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 2.0 acres Approx. acreage new landings: 3.0 acres

No major grading or filling will be required. The new construction of roads will require only enough fill to achieve grade. The fill material required for the construction will be generated from within the prism of the roads and landings.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some erosion could occur on the soil types found within the proposed sale area. Prudent road construction utilizing the Best Management Practices (BMP's) described in the Forest Practices rules will minimize the amount if not eliminate the potential for erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? Approximate percent of proposal in permanent road running surface (includes gravel roads):

The impervious surfacing consists of rock applied to the surface of the roads and landings. All newly constructed roads under this proposal will be abandoned according to Forest Practice standards.

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

The harvest proposal is in compliance with the procedures of the HCP, the prescriptions from the Mashel Watershed analysis and the current Forest Practice rules. In addition, contract language will prohibit yarding, hauling and road construction between November 1st and May 31st without written approval from the contract administrator. At any time during periods of wet weather, the yarding of timber, road construction and hauling of logs will not be permitted if excessive rutting occurs.

One end of logs will be suspended while yarding. The contract administrator will approve the location of skid trails prior to yarding. The location and design of the new road construction was chosen to minimize the disturbance of the natural vegetation and the amount of soil displaced. Drainage structures will be placed to reduce the velocity and volume of ditch water. The measures to reduce or control erosion in the road abandonment plans are intended to minimize the impact of the fine sediments generated from the operation. The road abandonment measures will consist of the following conditions: constructing non-drivable water bars, keying water bars into ditches, tank trap barriers, removing cross drain culverts and leaving the trench open, slope trench walls, scatter right of way debris over the road prism. The roads closed but not formally abandoned will be water barred and tank trapped.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No emissions are anticipated other than minor amounts of equipment exhaust and road dust created by truck traffic.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (See timber sale map and forest practice base maps.)

a) Downstream water bodies:

There is a Type 5 stream located within the proposal boundary which flows into a Type 4/Type 3 stream system adjacent to the proposal. A second Type 3 stream is adjacent to the south. Both the Type 3 streams flow into the Type 1 Busywild Creek.

A forested wetland is located adjacent to the southeastern corner of the harvest unit.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Un-named stream	5	1	None
Un-named stream	4	1	100 feet
Un-named stream	3	2	175 feet
Wetland	Forested	1	100 feet

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

The streams adjacent to the proposal were identified during the initial field reconnaissance. The stream typing was determined using resource information gathered from Forest Practices, the Nisqually Indian Tribe, and the Department of Fish and Wildlife. The South Puget Sound Region wildlife biologist has reviewed the stream types. Once the stream typing was confirmed, the appropriate buffer was applied. Refer to Timber Sale Map for locations.

Buffers, as required by the Habitat Conservation Plan, protect the streams and wetland within and adjacent to the sale area. 175-foot buffers protect the Type 3 streams, 100-foot buffer protect Type 4 stream and forested wetland. The buffers will protect the water quality of the streams and will provide shelter and foraging areas for the riparian species that are indigenous to the area. The presence and maintenance of the buffers will prevent fine sediments generated as a result of the logging operation from entering the surface waters. The size and locations of the buffers will assure that water quality is protected. There are a sufficient number of trees in the buffers to maintain necessary shade levels and the dead and down trees needed to provide quality wildlife habitat. See timber sale map for locations.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐No ☒Yes (See RMZ/WMZ table above and timber sale map.)
Description (include culverts):

The proposal would include falling and yarding of timber within two hundred feet of the above-described waters. No yarding over or through any typed water will be allowed.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (Include diversions for fish-passage culvert installation.)
☒No ☐Yes, description:

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒No ☐Yes, describe location:

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒No ☐Yes, type and volume:

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Yes, GIS soils maps indicate that two percent of the Mashel River WAU contains soils that are susceptible to mass wasting, and six percent of the WAU contains soils with high erosion potential. The majority of the soils that are susceptible to mass wasting are located in the upper areas of the WAU, above the Mashel River. This area is approximately two miles from the proposed harvest area.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), and change in channel dimensions)?
☐No ☒Yes, describe changes and possible causes:

Upon site inspection there was no evidence found of significant surface erosion in the Busywild drainage within the WAU. We did not see any visible evidence of debris dam breaks, debris flows, torrents, channel dimension changes, or decrease in large organic debris. However, there is evidence to suggest that major changes have occurred in the past in other areas of the WAU (northern and eastern portions) during periods of peak flow, caused by major rain-on-snow events. These changes were caused by slope failures and increased flows triggered by past, poor harvest methods, road locations and construction techniques. Practices have improved significantly in recent years. Since March 1997, all activities in the Mashel WAU have been subject to the Mashel River Watershed Analysis prescriptions, on file at the South Puget Region Office.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☒No ☐Yes, explain:

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒No ☐Yes, describe:

There is an average of 4.8 miles of road per square mile in the Mashel River WAU. The Department of Natural Resources manages 15,140 acres within the WAU, which contain 2.3 miles of road per square mile. Private ownership contains 5.7 miles of road per square mile.

Approximately seventy five percent of the ditches in the WAU carry water during the winter and spring months.

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.
☐No ☒Yes, approximate percent of WAU in significant ROS zone.
Approximate percent of sub-basin(s):

The entire proposal is within the rain-on-snow zone.

Approximate percent of sub-basin(s):
Sub Basin # 19228 is 66 percent
Sub Basin # 19236 is 91 percent

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

This information is for DNR managed lands only:

1. SUB-BASIN NAME	2. TOTAL ROS ACRES (DNR)	3. HYDRO MATURE TARGET ACRES (2/3 of Column 2)	4. CURRENT DNR ACRES IN HYDRO MATURE FOREST	5. ACRES OF HYDRO MATURE FOREST TO BE REMOVED	6. SUPRLUS (+) OR DEFICIT (-) ACRES AFTER ACTIVITY
SUBBASIN #19228	5,527	3,600	3,602	00 ***	+2
SUBBASIN ** #19236	1,617	1062	1,470	70	+1400

** Sub basin does not need to be managed for HCP hydrologic maturity. PR 14-004-060 (3) (c)
*** There are 3 acres of this proposal in sub-basin 19228. The 4-acre unit is a shelterwood; sufficient trees will be left in the residual stand to maintain the area as hydrologically mature.

13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?
☐No ☒Yes, describe observations:

Upon site inspection there was no evidence found of significant erosion in the Busywild Creek drainage within the Mashel WAU. We did not see any visible evidence of debris dam breaks, debris flows, torrents, channel dimension changes, or decrease in large organic debris. However, there is evidence to suggest that major changes have occurred during periods of peak flow of the Mashel River, caused by major rain-on-snow events. Generally the damage is caused by debris torrents and slope failures that have occurred during periods of peak flow, caused by major rain-on-snow events and have delivered directly to streams.

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.

This proposal is in the same general area as other recent harvesting activities. Upon site inspection of this proposal there is no indication that past, current, or foreseeable future proposals working in combination with this proposal would contribute to water runoff problem in the Mashel River WAU.

15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?
☒No ☐Yes, possible impacts:

16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.

This proposal is in compliance with the prescriptions of the Mashel watershed analysis. The current guidelines for the HCP implementation include prescriptions that address the potential for peak flow impacts. The HCP procedure PR-14-040-006, assessing the hydrological maturity levels assures that the sub-basins within the rain-on-snow zone will not be allowed to reach a point were they are at risk to contribute to a peak flow problem. This proposal includes the maintaining of cross drains and ditch outs on the haul routes. These structures will ensure that ditch water is deposited on the forest floor and not allowed to flow directly into typed waters.

b. Ground Water:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of motor oil, grease, and hydraulic fluids may leak from equipment or be washed off equipment by rainwater.

3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?
☒No ☐Yes, describe:

a) Note protection measures, if any.

There are no areas of slope instability downstream of the proposed harvest area. There are no registered wells or surface water rights downstream of this proposal.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The location of the culverts (cross drains) will be selected so as to disperse the storm water from the ditches onto the forest floor. The frequent spacing of culverts will minimize the distance water flows before being dispersed onto the forest floor. Consequently, no surface or ditch water will flow directly into existing stream channels. No water runoff will be channeled onto exposed soils.

There will be insignificant amounts of water runoff from skid trails, which traverse sloped terrain. The skid trails will be water barred, and closed with logging slash to direct runoff onto the forest floor. No surface runoff will be directed towards streams, thus eliminating any risk of eroded materials entering streams.

2) Could waste materials enter ground or surface waters? If so, generally describe.

a) Note protection measures, if any.

The lubricants and petroleum products used by the machinery will not be disposed of on site.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

Roads and landings are located away from streams and wetlands. Good landing locations, sound construction techniques utilizing the best management practices, adequate ballast and surfacing, seasonal restrictions on construction, hauling and yarding will reduce or minimize potential surface erosion problems. The frequent spacing and placement of the culverts with head walls, catch basins and energy dissipaters, along with the use of ditch outs will reduce or control surface, ground, and water runoff impacts. Seasonal restrictions on construction, hauling, and yarding will reduce or minimize potential surface erosion problems.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☐maple, ☐aspen, ☒cottonwood, ☐western larch, ☐birch, ☐other:
☒evergreen tree: ☒Douglas fir, ☐grand fir, ☒Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine, ☒western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce, ☒red cedar, ☐yellow cedar, ☐other:
☒shrubs: ☐huckleberry, ☒salmonberry, ☒salal, ☐other:
☒grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒devil's club, ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐plant communities of concern:

A review of P&T special concerns report and the Natural Heritage Data base along with site visits found no sensitive plant species.

b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

This proposal involves the harvest of approximately 3,304 Mbf of mixed conifers and hardwoods from 70 acres. During the felling and yarding process the subordinate vegetation within the sale area will be damaged.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

The stands immediately adjacent to the proposed harvest area are typical of the second growth stands found within the WAU at the same elevation and aspect. Adjacent to a portion of the western boundary there is a four year old plantation.

The Mashel River WAU has been heavily influenced by a wide range of activities including but not limited to: fires, agriculture, urban growth, and logging. Consequently, the structural diversity and age of the stands within the WAU varies. In the western portion of the WAU, agriculture, urban growth and logging have had the greatest influence on structural diversity and age. Large portions of the area formally owned by private timber companies have been logged and then converted into farms or subdivided for real estate development. This portion of the WAU contains a large number of scattered tracts of mature second growth timber (40-70 years of age) owned by small private landowners. The following conifer species are found throughout the WAU: Douglas fir, western hemlock, western red cedar, and spruce. The primary hardwood species in the WAU are red alder, cottonwood, and big leaf maple.

In the eastern portion of the WAU, logging and fire have had the greatest impact on the structural diversity and age. The primary landowners in this part of the WAU are large private timber companies and the State of Washington. These areas have been intensively managed for over 40 years. Small private landowners hold a segment of this area running along the Nisqually River from Elbe to Mt. Rainier National Park. It is rural in nature and similar to the western portion of the WAU. The majority of the private lands in this portion of the WAU have been harvested. The bulk of State land lies within this portion of the WAU. Approximately fifteen percent of the State land has been harvested within the last 20 years. The remaining stands are 40 years old or greater.

2) Retention tree plan:

The total number of leave trees is seven percent of those trees in the stand that are over 12 inches in diameter. Which amounts to nine trees per acre within the traditional regeneration harvest unit. The majority of the retention trees are evenly distributed throughout the proposal, with some being located in leave tree area clumps protecting large diameter snags and large downed woody debris. Approximately 4 acres in the southwest corner of the harvest unit will be a shelterwood with approximately 50 leave trees per acre to retain hydrologic maturity for the Beaver Creek sub-basin. The selected leave trees are a representative sample of those species found in the existing stand. The implementation of this strategy will assure the recruitment of important structural components for future wildlife habitat.

c. List threatened or endangered plant species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Douglas-fir and western red cedar will be planted within two years of the end of the contract.

5. Animal

a. Circle or check any birds animals or unique habitats which have been observed on or near the site or are known to be on or near the site:

birds: ☐hawk, ☐heron, ☒eagle, ☒songbirds, ☐pigeon, ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☒beaver, ☒other: cougar
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐talus slopes, ☐caves, ☐cliffs, ☐oak woodlands, ☐balds, ☐mineral springs

b. List any threatened or endangered species known to be on or near the site (include federal- and state-listed species).

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

The proposed sale area is within a designated Northern Spotted Owl Dispersal Management Area. This proposal will not reduce the area below the HCP required 50 percent threshold level. This proposal combined with all other sales to be offered from July 1, 2003 to July 1, 2004 will not bring the area below threshold. Currently the Mashel Watershed Administrative Unit contains 54 percent dispersal habitat. Marbled Murrelet habitat was found adjacent to the Eastern boundary during sale recon. This habitat was given a 300 foot buffer

c. Is the site part of a migration route? If so, explain.
☒Pacific flyway ☐Other migration route: Explain if any boxes checked:
Most of western Washington is within the Pacific flyway. This area does not contain any major resting or foraging areas.

d. Proposed measures to preserve or enhance wildlife, if any:

Leave trees were selected from the dominant and co-dominant trees within the proposed sale area. The wildlife trees were chosen from those trees that are deformed or damaged. Leave trees and wildlife trees are well distributed throughout the proposed sale area. Additionally, those hard snags that are safe to leave standing will be left. The proposed unit has buffers protecting the forested wetland and streams adjacent to the sale area. These buffers, while protecting the water quality of the streams and wetlands, will provide shelter and foraging areas for wetland and riparian dependent species that are indigenous to the area. The development of the scattered leave trees and the existing snags over time will promote structural diversity, assure the development of a biological legacy, while providing nesting, foraging, roosting habitat for cavity dwellers known to use the area. No harvest operations will occur within the buffers established on the wetlands or the streams adjacent to the sale area.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.
Species /Habitat: Riparian Protection Measures: No cut HCP buffers

Species /Habitat: Upland Protection Measures: scattered and clumped leave trees

Species /Habitat: Marbled Murrelet Protection Measures: 300 foot no-cut buffer from habitat

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum products used for equipment.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazard due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. The risk of forest fire is always present and will be increased for approximately two years following harvest due to logging slash.

1) Describe special emergency services that might be required.

The Department of Natural Resources, Private, and Rural Fire Protection District suppression crews maybe needed in case of wildfire. Emergency medical services for personnel injuries. Hazardous material spills may require Dept. of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Compliance with State fire laws, fire equipment will be required on site during the closed fire season. Operations will cease if relative humidity falls below thirty percent.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

There will be short-term, low-level and high level noise created by the use of harvesting equipment within the sale area. This type of noise has been historically present in this geographical area. The typical hours of operation will be Monday through Friday from 6:00 a.m. to 5:00 p.m.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? (Site includes the complete proposal, e.g. rock pits and access roads.)

Timber Production and Forest Management.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

Does not apply.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Forest Resource Zone.

f. What is the current comprehensive plan designation of the site?

Timber Production.

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is located in the Forest Resource Zone of Pierce County. The current proposal is compatible with that designation. The use of harvest planning information, adherence to the Forestry Handbook along with information taken from DNR's GIS system assure that this proposal is compatible with the existing and projected land uses and plans. The Pierce County Land Use Plan and DNR's Forestry Handbook are on file at the DNR's Region office at Enumclaw.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply.

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐No ☒Yes, viewing location:
This proposal will be visible from designated ORV trails adjacent and within the proposal.

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☒No ☐Yes, scenic corridor name:

3) How will this proposal affect any views described in 1) or 2) above?

Does not apply.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Where possible the natural terrain was used to lessen the aesthetic impact of the harvest units. The buffers adjacent to streams and wetland working in combination with the scattered leave trees will assist in reducing a change from the current views. The relationship and location of the harvest to past activities will create a scattered or fragmented look across the landscape.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply.

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Elbe Hills ORV trails are located within and adjacent to the proposal. Hunters and hikers use the area.

b. Would the proposed project displace any existing recreational uses? If so, describe:

The ORV trails that are located within the proposal will temporarily be closed while the harvest operation is active. Hunters and hikers who use the area may temporarily be displaced while the harvest operation is active.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Signs will be posted along the ORV trails warning users what trails are temporarily closed.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

Does not apply.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The Elbe Hills State Forest is accessed from Highway 7, Highway 706, and the Alder Cutoff Road.

1) Is it likely that this proposal will contribute to an <u>existing</u> safety, noise, dust, maintenance, or other transportation impact problem(s)?

Traffic from this operation will temporarily increase noise, dust and vehicle density, but will not be an increase from historical norms. Truck traffic from this individual operation should not increase the need for road maintenance.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the nearest public transit is 20 miles away in Eatonville.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Yes, refer to the roads information in A. 11 of this document. See the attached timber sale map.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will not be any change over historical norms.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

There will be eight to ten round trips per day while the operation is active. Peak volumes would occur during the yarding and loading activities typically between 6 am and 5 pm during the operating period.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Wildfire would require a response from DNR and fire protection district fire crews. Industrial accidents would need emergency medical services from the county.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Edward S Keeley Date: 04/ 14 / 04
Eatonville Operations Forester

Reviewed by: Herb Cargill Date: 6/3/04
Operations Manager

Approved by: _____ Date: _____
Eric Schroff, South Puget Sound Region Manager